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## DUTCH ELM DISEASE

The disease of elms known as Dutch elm disease was first known to science in 1919. The disease is believed to be of Oriental origin but it was not until the late 1920's that the causative organism was known. Extensive dying of elms in Central Europe in the late 1920's was found by Dutch pathologists to be caused by the fungus, Ceratostomella (Graphium) ulmi.

Dutch elm disease was first discovered in the United States in Ohio in 1930 and in the New York metropolitan area and Baltimore, Maryland, in 1933. In 1934, the U. S. Department of Agriculture placed an embargo against the entry of elm burl logs, the medium by which the disease reached the United States from Europe. Logs had entered this country at New York, New York; Baltimore, Maryland; Norfolk, Virginia and New Orleans, Louisiana and were transported for an aggregate of over 12,000 miles of railroads in the eastern United States and to veneer plants located at a number of points in the Midwest. At the present time all States east of the Mississippi River and north of Tennessee and Virginia and from Wisconsin to Maine have known infestations. One infestation has been found in St. Louis, Missouri. Twenty-eight cases of the disease have been reported in Wisconsin, all in the extreme southeastern corner of the State, except for two infestations near Milwaukee.

In this country the causative organism, a fungus, is carried by two species of elm bark beetles. One is native to this country while the other was introduced from Europe.

All species of elm found in the United States are susceptible to attack by the Dutch elm disease fungus. However, the Chinese elm has a rather high degree of resistance to the disease.

In the fall of 1933 following its discovery in the vicinity of New York Harbor, an allotment of funds for control of the disease was made by the Civil Works Administration. Control measures were directed at the reduction of insect populations through the destruction of



dead and dying elm wood. Large allotments of relief monies and about \$4,000,000 of funds appropriated by the Congress for use of the Department of Agriculture were available for an intensive control and eradication effort which lasted about 10 years. Following a review of the situation by the Congress, no funds were made available for this activity subsequent to May 1947 at which time the Federal participation in removal of diseased and dying trees was discontinued.

Research work on Dutch elm disease has continued in the Agricultural Research Service as a part of research on diseases of street, shade and bark trees. The work is conducted at Columbus, Ohio and Beltsville, Maryland. It is estimated that about \$61,000 will be allocated to this work during the fiscal year 1957. The experimental work is conducted for the purpose of providing information to municipalities and private owners of elm trees so that advantage may be taken of any new materials and techniques.

At present the recommendations for Dutch elm disease involve destruction of infested material and control of the elm bark beetles. DDT sprays are used for bark beetle control. When spraying combined with destruction of infested limbs, wood and trees is practiced on a community-wide basis, a very satisfactory control results reducing considerably losses from this disease.

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